EDITORIAL NOTES.

Parliament is sitting again, and the proposed horse-tax may shortly come on for consideration. It may be well therefore, to remind those practitioners who have influence with Members of Parliament and the opportunity to use it, that a word in season would not be lost. We make no exorbitant claim; we seek, not total exemption, but only to be put on the same level as medical men so far as regards the return of the tax on one horse. Very few veterinary practitioners, even if our claim to keep *one* untaxed horse be acknowledged, will fail to contribute to this revival of taxation on an agricultural product. No first-class country veterinary surgeon manages to get through his daily practice with one horse, and very many of them require three or more. A horse is as necessary to our business as drugs, limbs, or faculties, and the members of no calling have more reason to object to this tax than have the members of the veterinary profession. Let us do all we can to strengthen the hands of Sir Frederick Fitzwygram in his attempt to gain for us the same exemption as is proposed for medical men.

The death of Professor Tuson leaves the Chair of Chemistry and Materia Medica vacant at the Royal Veterinary College, and removes the oldest member of the teaching staff. The late Professor was 56 years of age and had been attached to the Veterinary College for twenty-eight years. He succeeded Professor Morton, and had previously acted as Demonstrator of Chemistry at Charing Cross Hospital. He was a Fellow of the Chemical Society, and a Fellow of the Institute of Chemistry. He was author of a "Veterinary Pharmacopœia" and a co-editor of "The Veterinarian" to which he contributed many articles, notably a number on poisoning. He also contributed to the Medical Journals, and was Editor of a two-volume work on Chemistry as applied to arts and manufactures. Professor Tuson was the discoverer of the alkaloid *Ricinine*, the active principle of Castor-oil beans; and he discovered and patented a disinfectant which is rapidly coming into general favour as a very reliable and powerful de-odoriser and disinfectant. To his old students, his death will cause feelings of deep regret, for he was not only a good and pains-taking teacher, but a man of warm and genial nature who endeared himself to all those who knew him. The fatal termination of the cardiac affection from which he suffered was not unexpected. He has for some time been incapacitated from work, and his duties at the Veterinary College have, from the commencement of the session, been performed by Mr. Baynes with great regularity and general satisfaction.

We publish below an article on the Register of the Royal College of Veterinary Surgeons, which deserves some consideration. Apparently it stands in need of a very thorough revision, and this is not practicable until each individual on the list has been written to by the Registrar.

If no earlier opportunity be found by the Council, we would suggest that when the voting papers are sent out in April, advantage be taken of the event to enclose a letter from the Registrar to every one, asking for his correct name and address. This would entail very little additional trouble or expense, and would clear the way for the registered-letter-application required by the Act, as preparatory to removing the name of those who do not reply. If it be true that there are 700 whose address is either unknown or erroneous, it is certainly time some enquiry was instituted.

The Committee formed by the Council to draw up questions on Hereditary diseases of the horse, have completed this division of their labours, and a circular will be immediately sent to every member of the profession. It is to be hoped every one will do what he can to assist the Council in this work; so that they may have a good basis on which to found their reply to the Royal Commission and the Royal Agricultural Society. Some curious replies will doubtless be received, and possibly some novel discoveries in physiology and pathology may be sent in. We should be glad if the Council could see their way to forwarding any specially luminous or humourous papers to us—on "roaring" for instance.

THE REGISTER

OF THE ROYAL COLLEGE OF VETERINARY SURGEONS.

There are 2,928 names of "effective" Members on our present Register, but 706 of these have no address which is available through the post office, and 169 of the remainder have removed from the address appended to their names. There are on the present Register 16 names, letters addressed to whom are returned, marked "deceased," and in one case a letter was marked, "died three years ago." Nearly one third then of our Members, are beyond the reach of a letter addressed from the Register. Some of the addresses are very vague, *e.g.*, John Smith, London; Peter Jones, Australia; Robert Robinson, Australia. Some are even worse than this—George Scott, *late* London; Henry Mayor. *late* Army; Charles Minor, *late* New Zealand, Probably no Member can be compelled to furnish the Registrar with his correct address, but there is no reason why anything more than the name be inserted in any case when only an improper address

can be given, and it would certainly be more correct to merely put on the Register what is compulsory, unless proof of its exactness be obtained.

The first compulsory registration is referred to in the Charter of 1876, which says—"That the Registrar to be appointed under or by virtue of this Charter shall from time to time make out and maintain a complete Register of the names and, so far as may be, of the residences or addresses of all persons being Members." Next, in the Veterinary Surgeons' Act, 1881, it is provided that the Council "shall cause correct copies of the Register to be from time to time, and at least once a year printed," and also that the Registrar shall "insert in the Register any alteration, which shall come to his knowledge in the name or address of any person registered; that he shall remove from the said Register the name of every deceased person." and that "he may remove the name of a person who has ceased to practice, but not without the consent of that person," Now, the difficulty which meets the Registrar is this—What is legal and sufficient evidence of *decease*, of *change of address*, and of "*ceased to practice.*" It does not do to accept the assertion of another Member, and it is impossible to obtain evidence of many deaths abroad. Even in this Country, where the local Registrars of death are compelled to send a certificate to our Registrar, "on receiving notice of the death of any person on the Register of Veterinary Surgeons," it is quite possible that no notice may be received, as no notice of the deceased person's being a Member may be given to the Registrar of deaths. It is a serious matter to wrongfully remove a name from the Register, and for *wilfully* doing so the Registrar is liable to a penalty of £50, or twelve month's "hard." But a *mistake* made in attempting to make the Register correct is not a serious matter, it is easily repaired, and can do no harm, Section 5 of the Act, however, provides a simple way of obtaining correctness without hardship to any man, and it runs thus—"When the Registrar has reason to think that any person registered has ceased to practice, the Registrar may send by post to such person, a notice inquiring whether or not he has ceased to practice or has changed his residence." If no answer be received within three months, another fortnight is allowed to elapse, and then a Registered letter may be sent, calling attention to the first notice, and if no answer to this is received within a month, the name may be removed from the Register. A name may be restored to the Register by resolution of Council with, or without fee.

We strongly suggest to the Council that it is time this Section was acted upon, and a clearance made of a number of names and addresses which are certainly incorrect.

Looking through the Register, we have been struck with the large number of old men upon it, and for some time accepted this as evidence of the healthiness and prosperity of the profession. There are no less than 305 names of men who graduated anterior to the Incorporation of the profession in 1844. There are some as far back as 1820, and a few even earlier. We find, one in 1812, two in 1814, one in 1815, and three in 1819. Supposing these men graduated at twenty years of age, the whole seven must have been born last century. A closer inspection, however, reveals a fact, which almost certainly shows that these names are not properly retained on the Register. Out of the 305 patriarchs, 166 have no address, unless the word be applicable to such descriptions as—"*late* Army," "*late* London," or "—— Australia." We have a firm conviction that over 200 of these names registered as anterior to 1844 would not respond to a letter from the Registrar.

Owing to peculiarities in punctuation, it is very often impossible to know where a man's name finishes and his address begins. How ought we to address—

Watson, Henry, Balloren, Beauty, Inverness.

Smith, William, Bradninch, Cullompton, Devon.

Why not use a comma to separate surname from christian names, and a colon to separate the name from the address ?

There is another feature of the register we think requires alteration. Following the date of diploma are the words, "Lond.," "Edin.," "Glas.," "N.Ed." These abbreviations are neither the names of places nor of institutions. They do not afford information as to which school the graduate studied at, or where he obtained his diploma. They are an incongruous mixture and, if meant to indicate the schools, should include "Dick's," and "Gamgee's," or, if meant only to indicate the place of examination, should not include "N.Ed.," or "Glas." Our idea is that although the Council might from courtesy permit the place of study to appear; all that is really necessary, and certainly most correct, if not least invidious, is to distinguish between those who pass before the Scotch or English Board of Examiners. The only abbreviations should then be "Scot.," or "Eng."

As a correspondent pointed out in *The Record*, a short time since, it is not proper to add such remarks to a name as "not to be addressed," or "care of the Secretary." The profession can well afford to dispense with the names of men who for any cause wish to retire into privacy, or who have lost all interest in its doings. Nor do we think it would be amiss to be a little more definite in using the title "Professor." When men have been teachers at colleges, and desire to retain the title, it should read "(late Professor ——— ——— College)."

There are a few mistakes which want correcting. Three names of men dated as graduating prior to 1844 are credited with having passed or studied in "Glas.," whereas no college existed in that town till nearly twenty years later. At the end of the register, where the members are grouped geographically, we notice, under the heading "Africa," an address in "Buenos Ayres, S.A." which suggests some topographical confusion.

Men in the active Army cannot have a fixed address; to find them we must consult the Army List, but when a man has retired he should either supply his private address, or merely retain his name; "*retired* Army" affords no information of value to anybody.

CLINICAL NOTES.

EXTENSIVE OPENING INTO THORACIC CAVITY OF HORSE.

By Henry Thompson, M.R.C.V.S., Aspatria.

On the morning of the 12th September, I was urgently requested to see a four-year-old cart horse, the property of Mr. William Ostle, Mawbray Cote, about six miles from Aspatria. The animal had been out to grass all night, and on going for him in the morning, he was found lying in a dry ditch on his back, partly on the off side, with legs sticking up. On getting him out of his uncomfortable position he jumped upon his feet, when it was discovered that he was breathing through his side and making a great blowing noise.

On examining the ditch, projecting from one side of it was found an old thorn stump—about the size and shape of a large doubled-up fist—from which some twigs had recently been cut, leaving sharp points sticking up. The horse had got cast on to these stumps during the night, and in his struggles to free himself had rubbed the sharp points through the skin and integuments into the thoracic cavity between the seventh, eighth and ninth ribs just at their bend, and with the continuous friction, a portion of the periosteum had also been stripped off the ribs. The owner on observing the air going in and out of the wound, with praise-worthy action, had it covered with a piece of soft leather, over this a large sheet doubled and secured by a broad body roller, then the animal walked gently home, about a quarter of a mile.

Meanwhile, a messenger had been sent for me, and on my arrival, I found the poor brute with mouth wide open; nostrils dilated, the muscles round the mouth and cheeks moving rapidly and facial expression very anxious; breathing difficult, gasping and spasmodic, volume of pulse good, but quickrunning—Emphysema was very diffused, extending over the shoulders, neck, ribs, flank, and under the belly—in fact, the off side was like a balloon. I took off the covering and found a very extensive lacerated wound with jagged edges, and air rushing in and out of the thoracic cavity, with great force. Upon manipulating, I found the muscles under the skin so much mutilated, that I had no difficulty in passing my hand between the ribs into the chest. The great damage done, and the large amount of sloughing that was likely to follow, gave no hope of successfully pulling the parts together. I, therefore, informed the owner that the animal would die. He, however, was anxious that something should be done as the animal was both young and valuable. The first point was to exclude the air, and, for this purpose, I had cut from a flitch of Cumberland bacon, a piece about nine inches square of the rind or skin, with fat about half-an-inch thick on the inside (not the first time, by many, have I used this dressing when nothing else was at hand, for keeping the atmospheric air from wounds); with this I covered the opening, placing the fatty side to the wound; over this, I secured two folded towels, then sewed a large bag round the body, and put over the whole a broad body-girth, scarified the Emphysema, and gave Carbonate of Ammonia, two drams in a ball, and to facilitate easy defæcation ordered warm water enemata every four hours. Before I left the animal seemed much relieved; the mouth closed, and the face lost a great deal of the anxious expression. I ordered that an attendant be constantly on the watch, and offer the animal milk and water frequently to drink. On my visit next day, about 10 a.m., I was surprised to see the horse so fresh; but, as he showed signs of wanting to lie down, I put him in slings, which he very soon made use of, and appeared more comfortable, taking occasionally a mouthful of water. As I had no hopes of his recovery, I left word to wire to me when he died, and getting no message, I went the following day about 8 p.m., but found the animal dead, *the telegram having miscarried, and up to the time of writing not having been received.* I removed the skin round the wound, and found the laceration of the muscles very extensive, reaching down nearly to the cartilages of the ribs. There was a large opening into the chest between the eight and ninth ribs, and a small one between the seventh and eighth ribs. Seeing the length of time the animal lived after the accident (forty-eight hours) and from the post-mortem, should I ever meet with a similar case—I hope not—I would lay open the skin the whole length of the laceration, or damaged muscles, and endeavour to pass a needle, threaded with cat-gut, around the anterior edge of the front rib, and posterior edge of the hinder one, and draw the ribs together binding all up with antiseptic dressing. Nothing, in my opinion, beats common Stockholm tar and tow. It is worth the trial, as nature does marvellous things sometimes, and the unexpected often happens.

VESICAL CALCULUS IN A MARE.

By Charles Sheather, F.R.C.V.S.

In 1883, I was called upon to attend a bay cob mare, with the following history. She was five years old, an exceptionally quiet hack, and as such, was much esteemed by her owner, a dealer.

She was purchased of him by an old gentleman for riding purposes, but was submitted to a veterinary examination at the Royal Veterinary College before completion of the purchase; when the first indication of any abnormal condition was discovered.

After being galloped to test her respiratory organs, she was placed in a stall to get cool, when she passed a quantity of bloody urine. She was, in consequence, rejected as unsound in her urinary organs.

On her arrival home, I was sent for, and on rectal examination discovered a calculus in her bladder.

She was sent to my infirmary for operation, and, the day before this was carried out, exhibited symptoms similar to those of colic, which were, however, removed on passing a sound into the bladder, and displacing the calculus from a position it had taken up in its neck. Her urine, after a slight trot, was always sanguineous, and there is no doubt that the displacement of the stone from some fixed position in the bladder was effected by the gallop at the Royal Veterinary College.

She was placed under the influence of chloroform, and the calculus removed whole with a pair of warmed, well lubricated forceps, with little difficulty. It was very light, rough on its surface, about $2\frac{1}{2}$ inches long, $1\frac{3}{4}$ wide, and $1\frac{1}{4}$ thick.

It was placed in a scale drawer, where a day or two after, it was broken into small fragments by the opening of the drawer; its inner constitution was ill-adherent and sabulous.

The mare was sent home in a few days, and on meeting the owner after a fortnight's interval, I enquired after the mare.

He replied, that the mare was well enough, but had turned out a perfect beast; she would neither be ridden nor driven, without kicking in a most sustained and vicious manner, and that she had shown this peculiarity immediately on returning from my infirmary. "She was the quietest animal in the world before you took the confounded stone out of her," he added, "don't you think you could put the blessed thing back again?"

After a month's drilling she became more docile, but never quite the "old gentleman's" animal she was before.

Did the presence of the calculus keep her quiet?

FOWL PATHOLOGY—A CONTRIBUTION.

By Fred C. Mahon, M.R.C.V.S.

From a comparative point of view, the position occupied by outbreaks, and investigations, a few brief remarks on diseases affecting the feathered tribe, as Fowls, Turkeys, etc., may not be inimical to the best interests of the Profession, and the columns of so popular a journal as *The Record*.

By recent statistics and investigations, no less important an affection than "Tuberculosis" is considered capable of propagation by diseased products from the human subject, and from fowl to fowl, under certain conditions, notably, overcrowding, unhealthy soil, and exposure, and if the flesh is consumed badly cooked, or partaken of at a temperature at which the bacilli are not destroyed, affording a subject worthy of position side by side with that of Meat, fit or unfit, from subjects diseased from Anthrax, Tuberculosis, etc.

On the grounds, a serious import is given to the communicability of diseases specific as Diphtheria, propagable from Fowls, Turkeys, etc. to the human subject, and vice-versa.

The Lymphatics of the Fowl are few, and are scarcely met with other than in the Cervical Region, the former are abundant in the viscera, and unite in such a manner as to form two Thoracic Ducts. These ducts commence at the Cœlic Trunk, and pass along the lower face of the lung, receiving the Lymphatics of that organ and those of the wings, finally opening into the Jugular Vein a little in front of their union with the Axillary Veins.

It is only of late years some especial interest appears to have been awakened in the subject of diseases of Poultry and other birds, upon which in a public or private capacity we oftimes are solicited for opinions, and now the subject of transmission of disease by ingestion of flesh as food (I refer especially to Tuberculosis) is brought into prominence.

I think it is time well spent, elucidating many diseases rife among such, more fully, which are likely to prove of interest to the Profession, and public at large.

Case I.—a Fowl, Dorking Variety, whose Cervical glands, and eye on left side were nearly obliterated by the growth.

These growths appeared to be of a pale whitish hue, in parts reddened, and fairly circumscribed, evidently connected with the gland tissues. Similar growths existing in connection with the Oviducts, with multiple development in various parts of the body.

Microscopical Characters. Widely diffused, not local. Evidently more or less general, and more particularly, though not absolutely in connection with, the *Lymphatic Glands*. The eye was obliterated, and no doubt the growth here formed the *Foci*, from which the disease appeared to have extended.

The Query arises, were such growths of an infective character?

Recently, I have examined two Fowls which died from progressive Anœmia, and found the Lymphatic system thoroughly charged with Enchrondromatous elements as here found. Fowls, it is now established doctrine, are the subjects to a greater or lesser extent of Tuberculosis, therefore as referable to prevention, their ingestion as food involves further consideration respecting the propagation to mankind of such a dire scourge, now so fertile in our midst, and so rapid increasing.

Is this case one of Tubercle or not? Is the eye a structure where Tuberculosis is prominently situated, or often found? Certainly not! It is the Liver, and Intestinal Tract, where in nine cases out of ten these growths are generally found.

In this case, the Liver and Intestinal Tract were free, and recently it is reported from the Continent, that experiments conducted by feeding fowls in quantities over a lengthened period, failed to produce Tuberculosis of the Intestinal Tract. It may be said moreover, a Tubercle is a growth rarely undergoing caseation, or liquefaction. In this case, neither conditions were present. There was little or no granulations here present, as in Tuberculosis. In the larger masses of aggregated Tubercle, we often find nodulated or lobulated masses, separated by grooves.

In this specimen, microscopic examination pointed to its not being Tubercle for there was no fatty degeneration or caseation present. The cells were

shrivelled and sunken to a triangular or oval appearance.

Was it a Lymphomatous growth associated with other of the tumours, or a Lymphomata (proper)?

Was it Cancerous? We answer in the affirmative.

It was negatively speaking, an Enchrondroma, or Cartilaginous Tumour, associated with and being intimately connected with Epitheliomatous elements of which many cells abounded. Its rapid development, and existence in a multiple condition, disposition of cells and character, pointed to this diagnosis.

Its connection with the Viscera, its composition of numerous cell elements presented a striking epithelial character, with distribution of Enchrondromatous elements, the cells being large, multinucleated, invading not only the Lymphatic glands, but also the eye. With the mouth and eye, in various animals, we find occasionally such disease, interfering with mastication, and producing loss of flesh, debility, and death. Often if the growth is slow, and no vital structure affected seriously, life may be prolonged for indefinite periods, until the advent of ulceration and its effects, producing irritative Fever, Anæmia, and death as a sequela.

Recently, I was asked to make a Post-mortem on a Peacock, who had cohabited with a number of fowls, many falling victims to an outbreak of Diphtheria. Recent investigations go far to prove the transmission of this specific disease from Turkeys to Turkeys, Fowls, etc. Are Peacocks insusceptible, or have they an immunity against this disease? Can any of the readers of this Journal, who have studied diseases of the Gallinæ, etc., favour me with corroborative evidence of the transmission of Diphtheria in Fowls to Peacocks, or other birds intermingling or associating with the birds of the farm, or otherwise?

Can Diphtheria be propagated from mankind to birds, and *vice-versa?*

VETERINARY MEDICAL SOCIETIES.

HEREDITARY UNSOUNDNESS.

By C. Stephenson.

Read before the North of England Vet. Med. Assocn.

Gentlemen,—By the express wish of our much-esteemed President, I have this day the honour to bring before you the subject of "Hereditary Unsoundness," a subject of vast importance, and one that at the present time is commanding a large amount of attention.

I cannot possibly bring this subject before you in all its varied aspects; neither is it possible for this meeting to thoroughly discuss it. What I purpose attempting to do is to bring before you, as briefly as possible, those defects or diseases which in breeding animals are looked upon as hereditary; and to direct your attention to the subtle questions of "Heredity" and "Atavism."

When we, in our learning, speak of heredity and atavism, we are only giving expression to the old-fashioned truism that "Like begets like." By "heredity" we mean the transmission of the characters and peculiarities of parents to their offspring; and the word atavism is applied to those cases in which the peculiarities, type, markings, etc., of some old ancestor, aristocratic or plebeian, as the case may be, re-assert their latent powers, and are reproduced.

This throwing back, as it is termed, is a very interesting subject, particularly to breeders; but as it is only a branch of the main question before us, I need not dilate further upon it. Before proceeding further I think it will be advisable if we refresh our memories by casting back, and recalling as many instances and cases as possible in which we have seen heredity assert its powers. I know that you have all seen many such cases, both in man and the so-called lower animals; cases in which peculiarities of form, temperament, malformations, diseases, and vices could be clearly traced from parent to offspring, and were, in fact, characteristics of certain families. Not that every member of a family or descendant of a sire is constituted or affected alike. Some escape the family characteristic, or it may lie dormant; but the tendency is there, and will, under favourable circumstances, assuredly be developed or reproduced.

Striking instances of "heredity" are found in the human family; but, as veterinary surgeons, we will on this occasion confine our attention to our friend the Horse. It is neither advisable nor necessary to mention the names of any particular sire, knowing as I do that every one interested in horses and their breeding will be able to call to mind numerous cases in which the offspring of certain sires were noted for special or uniform qualities; cases in which temper, action, stoutness, softness, soundness, and unsoundness, together with peculiarities of form and colour, were family characteristics. As striking, common, and harmless examples of heredity, I have only to mention the lop ears of the Melbournes, and the sprinkling of white hairs that in old times denoted the McOrville blood, and in more recent times the Birdcatchers.

With these few introductory remarks I will now notice the principle diseased conditions met with in the examination of horses. Beginning with the eyes, I take it that we all agree that "cataract" is an hereditary unsoundness; and I trust you will forgive me for mentioning that examination of the eyes requires great care and judgment. I don't think that any experienced examiner would confound opacity of the cornea with cataract; but I would direct your attention to the changes produced in the eye by old age, changes which require due attention before pronouncing an opinion.

Wind.—In my opinion roaring, whistling, and grunting should be classed together as variations of one disease, and condemned as hereditary unsoundness. This may be a too strong, a too sweeping assertion to some. *i.e.*, so far as regards grunting, but, gentlemen, my experience is that grunting is too often only a forerunner of roaring,

and that as a rule roaring and grunting go together. I am well aware that horses sometimes grunt, and yet make no noise in their gallop; but grunters always take the first opportunity—the slightest excuse—to develope and perfect their musical tendencies. Some may say that grunting is no sign of roaring. Quite so; neither is it a test for roaring. I have known bad roarers that did not grunt; therefore the absence of the usual grunt of the roarer is not a sure and reliable test for soundness of the wind.

Splints.—Splints of themselves, and upon young horses, are not in my opinion hereditary; but if found upon a mature horse, and especially if accompanied by bony deposits upon other parts, they should be looked upon as hereditary. Splints are often the result of work and concussion; but some horses have a tendency to throw out or deposit bony enlargements. I once had a patient of the latter description, a well-bred hunter, and a troublesome one he was. Eventually I had the opportunity of making a *post-mortem* examination upon his remains; and so strongly was this bony diathesis developed in his system, that the coats of some of the arteries have been changed into bony cylinders. Splints may be, and often are, quite independent of heredity. I would just mention here that I knew a thoroughbred sire, perfectly free from bony enlargements, in fact sound, and yet a large percentage of his stock were affected with splints. How far atavism will account for this case I leave you to decide.

Ringbones, whether large or small, upon the fore pasterns, or upon the hind ones, even if they do not cause lameness, must be considered as hereditary. Before condemning a horse for ringbone, care must be taken that the enlargement is neither due to a fractured pastern, or to a breakdown of the suspensory ligament.

Sidebones.—The heredity of sidebones is so patent and well established that I simply mention them to complete the list of hereditary diseases.

Diseases of the Foot.—Approaching this part of our subject I do not expect unanimity of opinion. The feet of horses vary more or less in size, strength, and shape. We may have personal objections to a particular kind of foot, but if the feet are natural, free from visible disease, and the horse goes sound, we, as veterinary surgeons, should not, in my opinion, object to them. It is not always the best looking feet that wear longest, and it is no unusual thing to see narrow donkey-like feet stand work remarkably well. At the same time, I think that veterinary surgeons should, when called upon to examine a horse, always point out any peculiarity or deviations in the shape of the feet.

When I say that "*Navicular Disease*" is hereditary, I do not anticipate opposition from any one; but when I say that in my opinion "*Laminitis*" is hereditary I know that men of the highest standing will say no.

Now, I freely confess that the result of my enquiries *re* the heredity of *laminitis* is almost nil. I have only come across one gentleman who said he had seen mal-formed feet in young horses sired by a stallion suffering from *laminitis*. On the other hand, I have the testimony of A. B., an expert in horse breeding. He has three stallions, all suffering from chronic *laminitis*. Nos. 1 and 2 have been affected for twelve years; and No. 3 for eleven years. He tells me that he has records of over 2,500 foals by these horses; none of which are affected with *laminitis*; but he observed No. 3 has upright pasterns, and all his stock have the same defect. I have received similar information from another gentlemen who has owned sires that suffered from *laminitis*.

In considering this particnliar disease we should not expect to see it developed in young animals before they are put to work, any more than we should expect to see *navicular* disease. The question is, are the produce of horses so affected more prone to the disease? Is there a greater tendency to develope it when put to work than in stock sired by a horse with perfectly sound feet? I think there is, and I have always rejected sires that were suffering from *laminitis*.

I may mention that I have this year seen three young horses with feet of such a character as at once to draw attention to them. No. 1, a four-years-old, feet blocky, and marked with small rings; goes sound. The dam of this colt before being put to the stud was so lame from *navicular* disease as to be valueless. No. 2, a one-year-old, odd feet, goes sound. His sire has odd feet. No. 3, a three-years-old, feet large, thin, and suspicious looking, but goes sound. The sire of this animal was affected with chronic *laminitis*.

Sandcracks and marks of old sandcracks, independent of accidental causes, would, in my opinion, justify the rejection of any sire so affected.

Now, gentlemen, we will pass on to the hind legs, and I take it that all will agree that *Spavin* is an hereditary unsoundness. Unfortunately, trouble often arises as to whether a horse has spavin or not. When they are large there is never any dispute as to their nature and importance; it is the little ones, and the tarsal ridges that lead to so many disputes. Well, we are not all blessed with the same amount of knowledge, natural or acquired. Neither have we all the same delicacy and perception of touch and eyesight, and we can only hope that these unfortunate disputes will be few and far between in the future.

Curbs and Curby Hocks.—Curbs are not hereditary; but curby-looking hocks are. A horse with the best of hocks may at any time by some severe exertion spring a curb, but it is only a temporary injury, neither permanent nor hereditary. On the other hand, a sire free from curb, but with curby-looking hocks, will transmit the defect or peculiarity (call it what you like) to his stock.

Stringhalt and Shivering, being nervous affections, are pre-eminently hereditary. These defects if not carefully and especially looked for may escape detection. When found there should be no doubt as to their condemnation.

Bursal Enlargements in a sire seldom receive that attention which, in my opinion, they deserve. I have no doubt as to their heredity.

Now, gentlemen, we will notice the ticklish question of *Odd Feet.* Many horses, particularly amongst thoroughbreds, have odd feet. They run in families, and are decidedly hereditary. Odd feet may be sound feet, and remain sound at work. Because a foot is smaller than its fellow, it does not necessarily follow that it is diseased or unsound in any way. Odd feet are objectionable, just the same as turning the toe out or in would be, but if with the exception of being smaller than its fellow, it is sound, and of good shape, and the horse is free from lameness, I cannot see that we are justified in condemning the horse as unsound. While saying this, I fully admit the heredity of odd feet. A foot, in addition to being smaller than its fellow, may be, and often is, more or less deformed; narrow and high at the heels; upright in front; there may, or may not, be lameness, but these cases should, in my opinion, be condemned as unsound. The slightest trace of diseases or lameness in odd feet justifies rejection.

Over and above the diseases I have mentioned, there are others occasionally met with, and which deserve some attention, namely, *Broken Wind, Greasy Legs,* and *Mallanders.* The latter I would not have mentioned but for the fact that I recently saw a cart stallion objected to for having only slight remains of mallanders. Although broken wind and greasy legs are largely due to bad management, and admitting that both affections may, by treatment, be much modified, if not cured, yet I would condemn any sire so affected.

This portion of our subject presents itself to us in two aspects. In the first place, how are we to detect, or can we detect, the difference between acquired and hereditary unsoundness? and secondly, is the acquired unsoundness hereditary?

Beginning at the eyes again, cataract, which is admitted to be hereditary, may be, and often is, the result of an accident. I have known cataract to follow even a slight blow from a branch in a fence. I have also known dislocation of the lense, and even entire destruction of the eye follow an accidental injury. I have seen complete cataract in both eyes follow acute rheumatism, and I have seen total and continued blindness (amaurosus) resulting from a severe blow upon the occiput, accompanied with great loss of blood.

Now, gentlemen, whether the cataract is due to heredity or to accident, their appearance may be the same. There is no mark by which to distinguish the one from the other. True, a history of the accidentally caused one might be given, but might not be credited. The question arises—are both to be rejected, or is the proved accidental one to be passed?

Much the same kind of argument might be used to many of the diseases which we admit are hereditary, but I need not follow this line further.

Ear Marks.—In August, 1880, I bought a lot of Irish heifers to feed off. They were ear marked. One of them proved to be in calf, and produced a calf with ears marked exactly the same as its dam.

At the beginning of the present year I came across a pedigreed cow (V) with calf at foot, both of which had short ears; the tips of both ears were absent. This being a registered animal I had no trouble in tracing her history, which I found to be as follows:—She was calved with short ears, but her 1st, 2nd, 3rd, and 4th dams had perfect ears. She did not transmit the peculiarity to all her progeny, but her last two calves (bulls) had both short ears.

Deformities resulting from Injuries.—About six years ago, a hunting mare suffering from a split pastern was given to a friend of mine to breed from. No treatment had been applied to the pastern, and as a consequence it was much deformed; the foot was turned outwards, and the upper portion of the pastern had come downwards and inwards. There was no fault in the first foal, but the second one when I first saw it had a foot and pastern almost the exact reproduction of the dam's deformity; but being young, immediate and continued careful treatment resulted in a satisfactory improvement. The third and fourth foals were all right.

These cases may not be of much value to the controversy—however, they are facts, not hearsay, and I venture to think of some value. On the other hand, I admit that no matter how short we dock our horses, dogs, and sheep, neither the foals, puppies, or lambs come with shortened tails.

As bearing somewhat on this subject, I wish to mention that a veterinary surgeon in Northumberland told me recently that he had attended four foals this season suffering from *Open Urachus.* They were all by one horse, and he was affected with *laminitis.* I trust that if any gentleman here has experience of *open urachus* being common or confined to the get of any particular horse, that he will give us the particulars. I may remind you that Williams speaks of *open urachus* as a symptom of scrofulous disease associated with *ostitis.*

Proposed Changes.—The following is an extract from a reported meeting of the Hunters' Improvement Society:—

The Council have carefully considered the important question of veterinary examinations at shows, which has been raised by the letter of Sir Henry Simpson, read at the general meeting of members held at the Royal Agricultural Hall; they therefore propose, as there is a diversity of opinion among the veterinary profession as to what constitutes hereditary unsoundness, that the veterinary inspectors, after examining the horses submitted to them, will fill up the following certificate, which will be handed to the judges by the stewards. The judges will then use their own discretion as to the award of premiums:—

REPORT OF THE VETERINARY INSPECTORS TO THE JUDGES.

Thoroughbred Horse, No.....

Eyes .....
Wind .....
Fore-legs .....
Hind-legs .....
Feet .....
Remarks, if any:—

..... } Veterinary
..... } Inspectors.
.....

Date 188

This proposed change must be very unsatisfactory to the profession, and it is certainly hard upon the judges to add to their responsibility by asking them to decide as to what shall constitute unsoundness.

As a result of communications from the Royal Commission on Horse Breeding, and the Royal Agricultural Society, the Council of the Royal College of Veterinary Surgeons have decided to hold a conference to discuss and report upon this question, *i.e.*, to decide what diseases are to be considered as constituting hereditary unsoundness. Some members of the profession attached great importance to this conference, and speak as though its decision would settle the question. That is not my opinion. I have no doubt but that the conference or committee who have the question in hand will easily agree, when sitting around a table, as to what is and what is not hereditary unsoundness; but disperse them to the actual work of examining horses, and the same old disputes will arise—not as to whether spavins, ringbones, and sidebones constitute unsoundness and are hereditary—no one that I am aware of disputes that—but the dispute will be as to the actual existence of the diseases named. Some gentlemen will detect them easily, whilst others will entirely fail to do so.

In connection with this subject much valuable information may be learned from the work carried out by seedsmen and gardeners, who make a speciality of producing high-class pedigree cereals and plants. The secret lies in selection. Only the most perfect grains of the most perfect plants are used for propagation; of course along with selected seed there must be land and sorroundings well adapted to produce best results. The same theory and practice holds good in breeding animals, and only sound, good animals should be bred from; but as mares do well to produce one foal per year, whilst the stallion may beget one hundred in the same time, it follows that the greatest importance must be attached to the soundness and general excellency of the sire, and more particularly is this so when we remember that his external characteristics, colour, action, etc., will to a large extent be reproduced in the foals.

I am confident that the more you investigate this subject as developed and seen both in the vegetable and in the animal kingdoms, the more you will believe in the subtle and far-reaching power of heredity, and the more importance you will attach to the selection of breeding animals. Allow me again to say that only sound animals should be bred from, at any rate be sure that the sire is sound and true to his particular type. Gentlemen, I have purposely curtailed my remarks so as to give you as much time as possible to discuss the question. Before leaving it in your hands, I may remind you that although the question is at the present time occupying a great deal of attention on both sides of the Atlantic, there is really nothing new in it. We have no doubt, thanks to Darwin and other workers, extended our knowledge upon it; but our Great Master in His supreme wisdom concentrated and expressed the whole truth when He said:—"A good tree bringeth not forth corrupt fruit; neither doth a corrupt tree bring forth good fruit. For every tree is known by its own fruit. For, of thorns men do not gather figs, nor of a bramble bush gather they grapes."

ABORTION.

By E. A. Hollingham.

(A Paper read before the Southern Counties' Veterinary Medical Society).

In dealing with this subject, I shall endeavour to bring before you, in as brief a manner as possible, certain facts which have come under my own notice, relating to this disease; and, also, some of the results of the investigation of others. If you bear in mind the peculiar character of the disease, it is not astonishing that the greater portion of what can be said concerning it is confined to its causes. In most other disorders the etiology merely forms a subsection of what can be described concerning them, but with abortion, it forms the bulk of our useful knowledge. There is no room for difference of opinion concerning symptoms, nor, except in few instances, is there opportunity for treatment viewed from a curative aspect. Our principle and most useful knowledge concerning this disease, consists of an acquaintance with its causes, as it is only in this way we are enabled to advise such measures as result in its stamping out. Then again we find that the greatest losses are in connection with dairy herds. Those cases which occur in mares, sows, and bitches, are generally to be traced to some accidental or temporary cause, and lack that tendency to spread, which I have observed amongst cows and ewes. Those gentlemen amongst you, whose practice brings them in contact with dairy stock, know that the aggregate loss from this cause is large, and, in fact, on some farms it appears to be an accepted and recognised state of things, that a certain number of cows should abort during the year, and it is, generally speaking, only when the average rises very much that I have been consulted. One fact that I have observed in my practice is that, taken as a whole, our farmers and breeders are much more scientific men than they used to be; there is a large infusion of new blood into the farming world; young men of education, with trained powers of observation from our agricultural colleges, are to be found managing and farming land on a high scientific basis, and they do not consult or employ the man who cannot give them the information on such subjects which will enable them to avoid losses. It was the fact of coming in contact with such men as these, which led me, first of all, to give attention to this particular disorder. Previous to that time I had a general idea of some facts concerning abortion. Such obvious causes as blows on the abdomen, the influence of strong mental emotions, the indiscrimate administration of drugs, and various lung and chest diseases were well known to me, but the ergotised grasses were my great bugbear; and, I find, it is a pretty generally accepted idea amongst scientific farmers, that ergot is the principle cause of this disease. I

well remember reading a pamphlet by a certain medical gentleman, which was extensively circulated amongst agriculturists, relating to the results of the doctor's investigations; and the opinion which he comes to is, that there is no other frequent cause for abortion but ergot. The opinion of this gentleman is entitled to every respect; but, at the same time, I have seen many outbreaks where the influence of this parasite could not have been in operation. At the same time we are taught that the action of ergot has a direct contractile effect upon the uterus, which causes expulsion of the fœtus: that it causes capillary contraction, I think. is not to be doubted; but that, except in excessive doses, muscular contraction is so intensified in regard to the uterus as to produce abortion, I am very sceptical. I have had only one opportunity of testing my opinion, and in that instance I gave a cow, four months advanced in pregnancy, one oz. doses of fresh ergot for three days in succession, without any ill-effects. My experiment was interrupted from other causes, or I should have increased the dose; but at any rate it was sufficient to show that ergot is not such a deadly ecbolic as some imagine. It appears to affect rye grasses more than others, but none of our meadow grasses are exempt from its attacks, and in dealing lightly with its life history, I may remind you that it is propagated by means of spores, which gain access to the embryo seeds of flowering grasses. There they develope, eventually displacing the seed and protruding as a dark-coloured more or less horn-shaped body from between the paleæ. If not eaten at that time by the animals grazing, it either falls to the ground or finds its way into the hay-stack. Should it be left in the field it is liable to be picked up by animals eating the short grass; if not, it remains until the heat and moisture of the following summer, cause changes in it, which result in the formation and distribution of a fresh crop of spores. Heat and moisture are essential to its propagation, and consequently it is generally found in sheltered moist places, and more particularly on wet and clay soils. It is very easily distinguished both in the hay-stack and in the field; and can, therefore, be guarded against. For my own part, as I have intimated, I do not regard it as a frequent factor in this malady, but for choice I should prefer treating infected hay with either steam or salt and water before using. Either of these methods will destroy its toxic effects. Amongst other causes of cases of Sporadic abortion, I have found sudden alternation of temperature to be very prejudicial. Sudden chill producing a check to the action of the skin, appears to re-act upon the uterus in a most powerful manner, and to illustrate this, I may say that a case came under my notice only last winter where a cow shed was so constructed that when the doors were opened at each end, which occurred at feeding time, an icy wind swept through the building. In this dairy, abortions were frequent. After every investigation, I caused double doors to be put up, and gradually the complaint ceased. The feeding and other treatment remained the same.

Then, again, I have reason to believe that certain odours may be, especially in mares, a cause of abortion, and I regard it as very bad treatment to allow them, at any time during pregnancy, to be in the vicinity of slaughter-houses, or places where they can see or smell offal or meat. I have seen several instances where this has apparently been the cause. In regard to the mare, I do not think moderate, or even hard work, is hurtful, so long as no actual violence to the abdomen, such as kicks, or punching with the shafts, takes place. I know an instance where a mare was ridden about 120 miles in three days within a month of foaling without bad results. I have never seen evil result from fair moderate usage, in fact, I believe the animal is all the better for proper and not excessive work. Abortions in the mare are exceptional, and I regard that immunity to be greatly due to the more natural manner in which they are treated. They are not stuffed to repletion, like cows, in order to force milk, and they are not tied up by the head for months together without exercise. This brings me, to what I regard as the most frequent factor in producing the disease—I refer to indigestion. In fact, I am convinced we should be very near the truth if we described the great majority of outbreaks as arising from dietetic causes, for it is to the food supply we must look, in most cases, for the exciting cause. It is a most astonishing and instructive fact, to observe how certainly and quickly irritation of the stomach and intestines re-acts upon the uterus. There appears to be the greatest sympathy between these organs. I have, again and again, known cows to be hoven, and treated for that complaint and relieved, and yet, they have aborted within twelve hours. It is against this condition of things we require to guard. As you are aware, there are many different methods of feeding, which may produce indigestion and dyspepsia. Food may be of inferior quality, such as, mouldy, or washed out hay; it may not be properly proportioned, for instance, after a good root season, it is a great temptation to the farmers to give an excessive quantity. Now, roots, in consequence of the great per centage of water they contain, require to be judiciously mixed with other and dryer foods, or else irritability of the digestive track is sure to result. I have observed this more particularly in regard to ewes, with a resulting bad lambing season, and I am of a most decided opinion, that a man had far better allow his roots to rot, than to overfeed his pregnant stock with them. Then, again, with a view of forcing milk, food may be too abundant in quantity and of too nutritious and stimulating a nature, thus causing a condition of plethora, which brings about a diminished vitality of the placenta, which may result in abortion. Then, again, I have reason to believe that steamed food, especially if too abundantly supplied and, as it often is, given warm, is a great factor in some outbreaks. I regard its prejudical action to be due, in the first place, to its being given warm; secondly, that it sometimes becomes ready for assimilation quicker than the organs can deal with, and in this way it acts as an irritant, causing scouring and indigestion; and thirdly, if it is assimilated, we get

that condition of plethora already alluded to. My condemnation equally extends to the use of warm water for drinking purposes. It is one thing to take the chill off, but quite another matter when, in winter, the temperature is raised to 80 and 90 degrees. I believe, that water when moderately chilled, has quite as good a productive effect on milk secretion as using it quite warm. Then, Gentlemen, I would call your attention to another point which has at times excited an amount of interest and speculation in a locality—I refer to the influence of the bull. I have repeatedly heard owners refer abortion to the service of a particular bull. I have not found, however, that they are able to give a connected, reasonable explanation as to what defects the abused animal is labouring under. I can conceive that the use of a bull which is debiliated or that is much older than the female, might be a cause of abortion, but, I think, where abortions are observed to follow the use of a particular male, it affords a strong proof of the soundness of M. Nocard's observations and opinions as to the infectiousness of the malady. For, supposing a bull to be at a farm where abortions are common, or to have been used to an aborting cow, it is quite conceivable that he may infect himself with the active organism, and be capable of transmitting the infection.

This brings me to a distinct aspect of the disease, and one which must be considered separately—I refer to the alleged epizootic or infectious form. Independant of the experiments conducted by M. Nocard, a condensed account of which I shall presently read you, I think there is strong evidence that the disease does assume an infectious character; and we, as veterinary advisers, should be particular that our opinion, on this point, should be based on facts and supported by common sense. I consider a man assumes too great a responsibility, and also displays considerable ignorance, when, without experimenting, and with the results of observation extending over only a limited area, he allows himself to overlook or discard the opinions of other men which they have arrived at after much intelligent hard work.

This theory of infection is, without doubt, of considerable antiquity. I have seen in a very old work on Farriery, that it was then believed to be the principal cause, and as long back as my memory carries me I have heard people ascribe the spread of the disease to infection, and if we remember how it will persist on some particular farm, one cow after another "slipping their calves," it is not difficult to understand how it is that such ideas concerning the malady should be formed. Until I read the summary of Professor Nocard's report in the Veterinary Journal, I was very sceptical as to the existence of any infective principle. I accounted for the spread of the disease as being due to the same dietetic, or other cause, which was quite capable of being elucidated, and in that way put a stop to further losses. I certainly have not met with an outbreak which I could ascribe as entirely due to the existence of an infective principle. At the same time, I was in the habit of insisting upon strict sanitary precautions and cleanliness, and therefore it may have been in consequence of these precautions that good results have been obtained, while at the same time I have ascribed them to my other treatment in regard to feeding and general attention. This point I must leave for you to discuss. It is certainly a remarkable thing, how, when one cow aborts in a shed where there are other pregnant cows, they will often do so in quick succession, more particularly those animals which are 3 to 5 months advanced, and it is with these that the loss is most severe and annoying. The steady increase of milk secretion is put a stop to, and does not recover itself until the expiration of another normal period of pregnancy. If this could be brought about with any certainty, the cow might pay to keep on; but if a cow has once aborted, the tendency and general result is that she will abort again and again, and is thus rendered useless for dairy purposes, and at the same time her value is decreased 40 per cent. At a late period the mammary glands appear to have received such an amount of nervous stimulus that this secretion continues to be gradually increased until the full quantity is obtained. However, Gentlemen, I find I am straying from the particular point under notice—that of infection, and in connection therewith, I believe that we are indebted to continental science for the first sound information on this point. Franck, and others, have produced abortion by inoculating the vagina of a healthy cow with secretion taken from one which had aborted. Certain micrococci were found to exist in this secretion, but whether these organisms possess distinct characteristics and are identical with those found by other observers, I am not able to discover. If they are not, I conceive the experiments to be of negative value, but in any case, they are looked upon as the great factor in bringing about abortion.

(To be continued).

GOVERNMENT VETERINARY DEPARTMENT.

CONTAGIOUS DISEASES.

Reported in Great Britain during the week ending October 27th 1888.

From the returns published in the London Gazette of November 2nd, it appears that there were 16 fresh outbreaks of pleuro-pneumonia reported in the week ending October 27th, 13 of these were in England, and 3 in Scotland.

This is a considerable increase in England as compared with the returns of this disease during the past quarter, when the outbreaks averaged about 6 per week. The Counties of Essex, Lancaster, York (W.R.), and the Metropolis furnish 10 of these fresh centres of disease, while the others were returned from Durham, Kent, and Somerset.

Two of the Scotch outbreaks occurred in Forfarshire, and the third in Lanarkshire.

The number of cattle attacked was 40 in England and 4 in Scotland.

There were 134 healthy cattle slaughtered on or removed for slaughter from infected premises in England, and 32 were similarly dealt with in Scotland.

Anthrax.—Of this disease, 3 fresh outbreaks were reported in Lancashire, Lincoln (Kesteven), and Ayrshire; 13 animals were attacked, 1 of which was killed, 11 died, and 1 remained alive at the date of the return.

Swine-Fever.—This disease is now decreasing a little, as it usually does about this season of the year. There were 101 fresh outbreaks reported during the week, and 495 pigs attacked. Of these, 234 were killed, 233 died, 141 recovered, and there were 359 remaining alive in a diseased condition.

Glanders and Farcy.—There were 12 fresh outbreaks of Glanders reported during the week, 10 of these were in the Metropolis, 1 in Middlesex, and 1 in Warwickshire. There were 18 horses attacked, 15 in the Metropolis, 1 in Middlesex, 1 in Warwickshire, 1 in Lanarkshire.

There were 6 fresh outbreaks of Farcy reported, 5 in the Metropolis, and 1 in Surrey. The number of horses attacked was 9, of which 7 were in the Metropolis, and 2 in Surrey.

Rabies.—There were 2 cases of this disease reported in Lancashire, the animals affected being in both cases, dogs.

EXTRACTS.

BACTERIA.

The bacteria are the smallest living beings of which we have any knowledge. They are very widely distributed in nature—a privilege which they owe to the tenacity of their life, the simplicity of their vital conditions, and, above all, to their extremely rapid multiplication. If we wish to make their acquaintance we need merely pour a little water upon some animal or vegetable substance—such as a bit of meat, a little hay, a few peas, grains of rice, a crust of bread—and let the whole stand over-night in a warm place. The water will be found to have become turbid, and, if we examine a drop under the microscope with a sufficiently high power, we shall see a crowd of minute colourless beings of very simple forms. Some of them have the shape of rods, varying greatly both in length and thickness. In length they do not exceed a few thousandth parts of a millimetre (a millimetre, it will be remembered, is 39 hundredths of an inch), whilst their breadth is measured only in the ten thousandth parts of a millimetre.

Besides the rods we find tiny globules, differing in size, and, like the rods, sometimes occurring detached, and sometimes in clusters or united in chains. All these beings, which are at once distinguished by their minuteness from the yeast cells and moulds (which are much bulkier), are called *bacteria*. The little rods are known as *bacilli*, and the globules as *micrococci*. A third form of bacteria, also to be found in infusions, though less plentifully, appear as minute forms, either spirally curved like a corkscrew, or as thin, short, curved rods, and are known as *spirillæ* and *comma-bacilli*.

If we examine such a mixture of bacteria in a recent infusion we see the individual specimens in constant motion. The bacilli and micrococci dance up and down, to and fro, but without any great change of place. This is merely the case of molecular movement, which is alway observed in minute solid bodies suspended in liquids. But in addition to this molecular movement, which is common also to lifeless matter, many bacteria are capable of independent motion. This is most distinct in the spirillæ. They screw through the liquid with the speed of an arrow, and then occasionally remain for a time quiescent. Among the bacilli only certain kinds are capable of independent motion, the remainder being, like the micrococci, stationary. The independent movements of the creatures where they exist seem to be executed by means of *flagella*—threads like a whip-lash attached to the extremities of each.

Their reproduction is effected ordinarily by fission. A single individual grows in length, becomes divided transversely in the middle, and is thus resolved into two individuals, each of which is again subdivided in a similar manner. The parts, or the offspring, if we may so call them, may either entirely part company or they remain connected together, forming ultimately chains or links by continued fission. We then call them *streptococci*, or chain-cocci. The bacilli form, in a similar manner, threads. Sometimes bacteria, after fission, remain together in heaps or clusters, apparently adhering together by means of a cement. These clusters are known as *zooglœa*. In some species of micrococci the fission takes place not in one, but in two or three directions. Thus we have groups of four cocci, forming a square, or bale-shaped heaps each of eight cocci, or *sarcinæ*. Among bacilli we sometimes observe under unfavourable circumstances, such as the exhaustion of the nutrient fluid, the appearance of small, shining corpuscules, which are formed within the body of the bacillus. These corpuscles, which are known as *spores* from their analogy to the spores of fungi and algæ, play a similar part to the latter. They are discharged from the maternal body in a shower, and are capable of remaining dormant, if needful, until suitable nourishment is to be found.

Dr. Dallinger, however, in his most recent researches has established that the bacilli do not continue to reproduce themselves by fission, however favourable the surrounding conditions. After a number of successive fissions they seem to become exhausted, and form and discharge a crowd of spores as just described. The enveloping membrane, which is all that remains of the primary bacillus, sinks to the bottom of the liquid, apparently dead. The spores, set free, if they meet with suitable nutriment, grow up to bacilli, and increase by fission as before.—*Scientific News*

CORRESPONDENCE.

Communications for the Editor to be addressed, 20 Fulham Road, S.W.

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We shall be obliged by early intelligence of all matters worth bringing under the notice of the profession, and thankful to any friends who may send us cuttings from local papers, containing facts of interest.

FAULTS OF OMISSION AND COMMISSION.

DEAR SIR,

In your issue of October 20th, Mr. F. J. Mavor expressed his "surprise and disappointment" that, in the address to the students of the Royal Veterinary College, Professor Brown should have failed to give support to the theory of the specific action of drugs.

Mr. Mavor states, that he has discovered a specific drug for administration in Purpura Hœmorrhagica: He, however, forgot to name his specific, and, although appealed to in your issue of October 27th, he has still failed to enlighten his professional brethren through the medium of your columns.

Somewhat similarly Mr. Parlane M. Walker in your issue of November 3rd, challenges the address delivered by Professor Walley to the students of the Dick Veterinary College, by professing his surprise that Professor Walley should lead the students, and the Profession generally (with, perhaps, one dissentient), to suppose that, *in their early stages*, Tuberculosis and Pleuro-Pneumonia may be confounded.

Mr. Walker reproaches the authors of our text books with the sparsity of *differentiating* symptoms—and here allow me to say, that I entirely agree with him.

But, whilst leading your readers to suppose that he is perfectly capable of differentiating, *in their early stages*, Tuberculosis and Pleuro-Pneumonia, Mr. Walker falls, unconsciously (or otherwise), into the very error of which he accuses the said authors, . . viz: . . . *the omission of such differences.*

On these assertions of Messrs. Mavor and Walker, I, amongst many other young practitioners (and, possibly, some old practitioners too), have a right, in this nineteenth century, to demand through your columns—in which the assertions were made—the name of Mr. Mavor's specific drug, and a list of Mr. Walker's differentiating symptoms.

In our present condition of advanced science why should such assertions be made to the Profession *in puris naturalibus*?

Why should not proofs be offered?

I maintain that such articles partake strongly of self-laudation and charlatanry.

Yours faithfully,
A. WILLIAM BRIGGS, M.R.C.V.S.,

HALIFAX, Nov. 5th, 1888.

THE NATIONAL VETERINARY ASSOCIATION.

DEAR SIR,

Mr. Banham's communication on the above subject in issue of the 3rd instant requires, as an act of courtesy to that gentleman, that I should ask the favor of further space in your valuable Journal.

Mr. Banham asks, what my grievance is; I reply, I have no "*grievance*": but I should be glad—as also would one or two friends connected with the N. V. A.—to know, who elected the Provisional Committee which held a meeting at 10 Red Lion Square, on October 15th; who the Members of that Committee are; and how it was that Mr. Henry Edgar and myself, the proposer and seconder of the Resolution at the Newcastle Meeting, which determined that London should be the place of meeting for 1889, were not allowed to take part in the election of the Provisional Committee.

I have seen Mr. Henry Edgar since writing the letter which appeared in your issue of the 27th ultimo, and find that he is as much in the dark as myself, and not less anxious to have an explanation, why?

I certainly thought the aforesaid letter was clear enough for any ordinary mental capacity to grasp, and I am of opinion that Mr. Banham does himself an injustice to assume ignorance of my meaning. If Mr. Banham really wants to know what I mean by a "*ring*" I cannot do better than refer him, by way of illustration, to the action of himself and friends who, as he told Mr. Edgar and myself at Newcastle, had settled in Committee to accept an invitation to hold the meeting of 1889 at Reading; bearing in mind that no discussion in open meeting of the desirability or otherwise of adopting this course had then been vouchsafed: I explained to Mr. Banham that I should oppose such a cut and dried arrangement; Mr. Edgar and I did so oppose this proposition and with unmistakeable success, as the sequel showed.

Apologising for trespasing so much on your space.

Yours truly,
J. SUTCLIFFE HURNDALL.

BLACKHEATH.—6th Nov., 1888.

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